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| 10/736,930      | 12/16/2003  | Farzad Samie         | GP-303761           | 5331             |

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EXAMINER

LE, DAVID D

| ART UNIT | PAPER NUMBER |
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3681

DATE MAILED: 03/02/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/736,930

Applicant(s)

SAMIE ET AL.

Examiner

David D. Le

Art Unit

3681

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 16 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 12/16/03.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### DETAILED ACTION

1. This is the first Office action on the merits of Application No. 10736,930, filed 16 December 2003. Claims 1-20 are pending.

### Documents

2. The following documents have been received and filed as part of the patent application:
  - Information Disclosure Statement, received on 12/16/03

### *Claim Objections*

3. Claims 1-20 are objected to because of the following informalities:
  - Claims 1, 12, and 20 recite the limitation “a selectable braking one-way clutch operative to brake rotation of one of the members of the planetary gear sets when the transmission is in reverse and first speed,” which should be --a selectable braking one-way clutch operative to brake rotation of one of the members of the planetary gear sets when the transmission is in one of reverse and first speeds--.
  - Claim 8 recites the limitation “wherein said selectable braking one-way clutch comprises a controllable overrunning coupling”, which should be --wherein said selectable braking one-way clutch is a controllable overrunning coupling--.

- Claim 9 recites the limitation “wherein said selectable braking one-way clutch comprises a bi-directional differential clutch”, which should be -- wherein said selectable braking one-way clutch is a bi-directional differential clutch--.
- Claim 18 recites “wherein said selectable braking one-way clutch is actuated hydraulically by a piston and valve”, which should be --wherein the selectable braking one-way clutch is hydraulically actuated by a piston and valve--.

Appropriate correction is required.

***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. **Claims 4-5 and 11-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.**

**Claim 4:**

- Line 2 recites the limitation "the first planetary gear set". There is insufficient antecedent basis for this limitation in the claim.

**Claim 5:**

- Line 2 recites the limitation "the second planetary gear set". There is insufficient antecedent basis for this limitation in the claim.

Claim 11:

- Lines 2-3 recite the limitation "the first planetary gear set". There is insufficient antecedent basis for this limitation in the claim.
- Lines 4-5 recite the limitation "the third planetary gear set". There is insufficient antecedent basis for this limitation in the claim.
- Lines 10-11 recite the limitation "the second planetary gear set". There is insufficient antecedent basis for this limitation in the claim.
- Lines 15-16 recite the limitation "said brake being operatively connected between a transmission housing and said sun gear member of the first planetary gear set." This claimed limitation is inaccurate because the present specification, page 6, lines 1-2, discloses "the sun gear member 32 is selectively connectable with the transmission housing 60 through the brake 52." For the purpose of applying the art rejection, examiner interprets this claimed limitation as --said brake being operatively connected between a transmission housing and said sun gear member of the second planetary gear set--, as per page 6 of the present specification.

Claim 12:

- Line 7 recites the limitation "a selectable (reversible) braking one-way clutch". It is unclear whether applicant intends to claim --a selectable braking one-way clutch-- or --a reversible braking one-way clutch--.

Claim 16:

- Line 2 recites the limitation "the first planetary gear set". There is insufficient antecedent basis for this limitation in the claim.

Claim 17:

- Lines 2-3 recite the limitation "the second planetary gear set". There is insufficient antecedent basis for this limitation in the claim.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. **Claim 12 is rejected under 35 U.S.C. 102(b) as being anticipated by U. S. Patent No. 6,398,684 to Kaizu.**

Claim 12:

***Kaizu*** (i.e., Figs. 1-6; column 10, line 16 – column 12, line 60) discloses an automatic transmission comprising:

- An input shaft (IN);
- An output shaft (OUT);

- A plurality of planetary gear sets operatively connected between the input shaft and output shaft, each having a ring gear member, a planet carrier assembly member and a sun gear member (see Fig. 1);
- A selectable braking one-way clutch (Fig. 1, being the combination of elements B1 and OW1) operative to brake rotation of one of said members of said planetary gear sets when the transmission is in reverse and first speed (Figs. 1 and 2);
- A first rotating input clutch (C1 or C2) operatively engageable with the input shaft;
- Wherein said first rotating input clutch (C1) is inherently slipped for launching the vehicle in first speed;
- A second rotating input clutch (C1 or C2) operatively engageable with the input shaft;
- Wherein said second rotating input clutch is inherently slipped for launching the vehicle in reverse;
- A third clutch (C3);
- A brake (B2);
- Wherein said first, second and third clutches, said brake and said selectable braking one-way clutch are engageable in combination of two to provide six forward speed ratios and one reverse speed ratio between the input shaft and the output shaft (see Fig. 2);
- Wherein said plurality of planetary gear sets include a first, second, and third planetary gear sets (see Fig. 1);

- Wherein said input shaft is connected to said ring gear member (R1) of the first planetary gear set;
- Wherein said output shaft is connected to said ring gear member (R2, since R2 is a common ring gear for both second and third planetary gear sets) of the third planetary gear set;
- Wherein said first clutch (C1) is operatively connected between said planet carrier assembly member (D1) of the first planetary gear set and said sun gear member (S3) of the third planetary gear set;
- Wherein said second clutch (C2) is operatively connected between said planet carrier assembly member (D1) of the first planetary gear set and said sun gear member (S2) of the second planetary gear set;
- Wherein said third clutch (C3) is operatively connected between the ring gear member (R1) of the first planetary gear set and said planet carrier assembly member (D2) of the third planetary gear set;
- Wherein said brake being (B2) operatively connected between a transmission housing and said sun gear member (S2) of the second planetary gear set;
- Wherein said selectable braking one-way clutch being operatively connected between said planet carrier assembly member (D2, since D2 is a common carrier member for both second and third planetary gear sets) of the second planetary gear set and said transmission housing; and
- Wherein said selectable braking one-way clutch inherently includes a controllable overrunning coupling (i.e., column 11, lines 1-36).



***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. **Claims 1-5, 7, 10-11, 13-17 and, 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaizu in view of U. S. Patent No. 6,425,841 to Haka.**

*Claims 1-5, 7, 10-11, 13-17, and 19-20:*

***Kaizu*** discloses the claimed limitations as set forth in paragraph 7 above.

Regarding claims 1-5, 7-8, 10-11, and 13-20, Kaizu does not explicitly teach:

- Wherein the transmission is characterized by the absence of a torque converter.

***Haka*** (i.e., Fig. 1; column 2, lines 25-30), on the other hand, teaches a multi-speed power transmission; wherein the arrangement of the multi-speed power transmission, as shown in Fig. 1, can be arranged with a conventional torque converter or a starting clutch.

It would have been obvious to one of ordinary skill in the art at the time this invention was made to modify Kaizu such that the torque converter would be replaced by the starting clutch, in view of Haka, in order to improve the fuel efficiency of the multi-speed transmission.

**10. Claims 6 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kaizu in view of Haka as applied to claims 1-5, 7, 10-11, 13-17, and 19-20 above, and further in view of U. S. Patent No. 4,347,763 to Sakakibara et al.**

*Claims 6 and 18:*

*Kaizu in view of Haka* discloses the claimed limitations as set forth above. Regarding claims 6 and 18, *Kaizu* does not explicitly teach wherein the selectable braking one-way clutch is hydraulically actuated by a piston and valve.

*Sakakibara* (i.e., column 2, lines 53-59), on the other hand, teaches a power transmission mechanism comprising a one-way brake (64), as shown in Figs. 1-3, which is hydraulically actuated by, inherently, a piston and valve.

It would have been obvious to one of ordinary skill in the art at the time this invention was made to modify *Kaizu* such that the selectable braking one-way clutch, as defined in paragraph 7 above, is hydraulically actuated by piston and valve, in view of *Sakakibara*, in order to improve the endurance of a one-way brake.

11. Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaizu in view of Haka as applied to claims 1-5, 7, 10-11, 13-17, and 19-20 above, and further in view of U. S. Patent No. 6,244,965 to Klecker et al.

Claim 8:

*Kaizu in view of Haka* discloses the claimed limitations as set forth above.

Regarding claim 8, Kaizu does not explicitly teach wherein the selectable braking one-way clutch is a controllable overrunning coupling.

*Klecker* (Figs. 1-15; column 4, line 33 – column 8, line 28), on the other hand, teaches a controllable overrunning coupling being utilized in a power transmission mechanism for selectively transferring torque, in two different modes of operating directions, between the driving and driven members.

It would have been obvious to one of ordinary skill in the art at the time this invention was made to recognize and modify Kaizu such that the selectable braking one-way clutch, as defined in paragraph 7 above, is a controllable overrunning coupling, in view of Klecker, in order to further simplify the construction of the transmission.

12. **Claim 9 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaizu in view of Haka as applied to claims 1-5, 7, 10-11, 13-17, and 19-20 above, and further in view of U.S. Patent No. 5,025,902 to Imai et al.**

*Claim 9:*

*Kaizu in view of Haka* discloses the claimed limitations as set forth above.

Regarding claim 9, Kaizu does not explicitly teach wherein the selectable braking one-way clutch is bi-directional differential clutch.

*Imai* (Figs. 1-22; column 2, line 41 – column 8, line 49), on the other hand, teaches a bidirectional differential clutch to be utilized in a power transmission for transmitting torque in both clockwise and counterclockwise rotations at the input side.

It would have been obvious to one of ordinary skill in the art at the time this invention was made to recognize and modify Kaizu such that the selectable braking one-way clutch, as defined in paragraph 7 above, is a bidirectional differential clutch, in view of Imai, in order to further simplify the construction of the transmission.

***Conclusion***

13. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Stevenson et al. (U. S. Patent No. 6,827,664) teaches a transmission as shown in Fig. 4.
- Baldwin et al. (U. S. Patent No. 6,053,839) teaches a multiple speed transmission as shown in Fig. 1.
- Hiraiwa (U. S. Patent No. 4,653,348) teaches a planetary gear train for an automatic transmission as shown in Figs. 15-18.
- Hattori (U. S. Patent No. 5,135,444) teaches a planetary gear system as shown in Figs. 43-45.
- Inuta (U. S. Patent Application Publication No. US 2004/0235601 A1) discloses a transmission as shown in Figs. 1-2.
- Miyazaki et al. (U. S. Patent No. 6,802,795) teaches an automatic transmission as shown in Fig. 1.
- Kato et al. (U. S. Patent No. 6,361,468) teaches an automatic transmission as shown in Fig. 1.
- Kasuya et al. (U. S. Patent No. 6,139,463) teaches an automatic transmission as shown in Fig. 1.
- Saiko et al. (U. S. Patent No. 5,848,679) teaches a two-way differential clutch as shown in Fig. 1.

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- Fukui et al. (U. S. Patent No. 6,796,413) teaches a one-way clutch as shown in Fig. 1.
- Ronk et al. (U. S. Patent No. 6,652,407) teaches a transfer case shift system for a controllable bi-directional overrunning clutch, as shown in Fig.4.
- Japanese Patent No. JP404300442A teaches a planetary gear line of automatic transmission as shown in Fig.1.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David D. Le whose telephone number is 703-305-3690. The examiner can normally be reached on Mon-Fri (0700-1530).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A Marmor can be reached on 703-308-0830 or 571-272-7095. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
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